

Studios that Act Analog but Think Digital

Take a good look at the n8 and n12: nothing confusing here, just the familiar layout and look of an analog console. Input controls, EQ, sends, faders, monitor controls, meters ... all just where you'd expect them to be. So why are they called "Digital Mixing Studios?" Because behind the comfortable, intuitive interface lies an extraordinarily powerful digital mixer and production center that works seamlessly with an advanced version of Steinberg's CUBASE DAW running on your Macintosh or Windows PC. The n-series Digital Mixing Studios are elegantly optimized combinations of hardware and software that set up easily and let you get right down to making music with maximum quality and control, and with minimum interference from "technology."

Built-in "Feel-good Factor"

This elusive but essential ingredient can mean the difference between recording a memo or a masterpiece. It's not just you, or the gear you use, but a synergetic connection between the two. The Yamaha n-series Digital Mixing Studios have been created primarily to make that connection easier to achieve. Obviously the equipment won't make the music for you, but bad sound and/or complicated procedures will certainly dampen your inspiration and enthusiasm. That's why the n8 and n12 have been designed from the ground up to make recording and mixing a creative joy rather than a technical hassle. You'll sound good, and you'll be able to create the moods and textures you're after with minimum effort ... in short, you'll feel great about the whole process so your talent can really shine. Inspiration can be unreliable, but when it strikes the Yamaha n-series Digital Mixing Studios let you capture it in all its creative glory.



DIGITAL MIXING STUDIO

- n12**
- 12 input channels:
 - 8 discrete class-A microphone preamps, 2 stereo line inputs.
 - 16 in / 16 out through FireWire® audio interface.
 - 5.1 surround monitoring capability.

DIGITAL MIXING STUDIO

- n8**
- 8 input channels:
 - 4 discrete class-A microphone preamps, 2 stereo line inputs.
 - 12 in / 12 out FireWire audio interface.

System Requirements

*The system requirements below are necessary for using the n8/n12 by connecting it to a computer, or for using the included DAW.

Windows®

●**n8/n12**
OS : XP Professional/XP Home Edition SP2
Computer : Intel Core or Pentium or Celeron family processor, 1.4 GHz or better with an S400 (400Mbps) IEEE1394 (FireWire) or i.Link terminal.
Available Memory : 512 MB or more
Hard Disk : Free disk space of 100 MB or more; high-speed hard disk

* Windows Vista to be supported soon.

●**CUBASE AI4**
OS : XP Professional/XP Home Edition
Computer : Intel Pentium 1.4 GHz or more
Available Memory : 512 MB
Display Resolution : 1024 x 768 pixel
Audio Interface : Windows DirectX compatible
Hard Disk : Free disk space of 400 MB or more; high-speed hard disk
Others : DVD-ROM drive required for installation
Internet connection required for license activation

* For more details and the latest information, Please see <http://www.yamahasynth.com>

Macintosh®

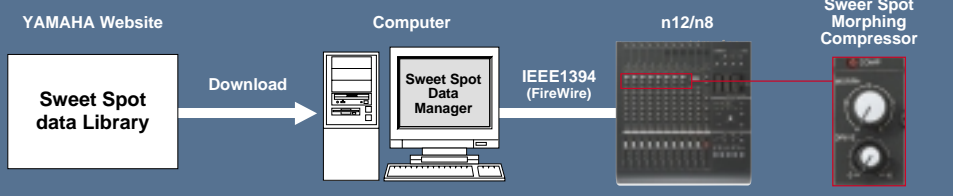
●**n8/n12**
OS : Mac OS X 10.4 or higher
Computer : Power Mac G4 1 GHz or Core Solo 1.5 GHz or better with an S400 (400Mbps) FireWire.
Available Memory : 512 MB or more
Hard Disk : Free disk space of 100 MB or more; highspeed hard disk
* Macintosh Driver will be available in summer 2007.

●**CUBASE AI4**
OS : Mac OS X 10.4 or higher
Computer : Power Mac G4 1 GHz or Core Solo 1.5 GHz or better
Available Memory : 512 MB or more
Hard Disk : Free disk space of 400 MB or more; highspeed hard disk
Display Resolution : 1024 x 768 pixel
Audio Interface : Core Audio compatible
Others : DVD-ROM drive required for installation
Internet connection required for license activation

Special Contents

Sweet Spot Data Library

Sweet Spot Data Library By famous musicians, producers and engineers. Download from <http://www.yamahasynth.com/products/n8n12/ssdl/>



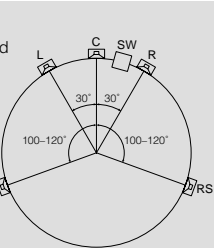
CUBASE 4 - Advanced Music Production System

CUBASE 4 represents the cutting edge in digital audio workstations. Designed for professionals from the ground up, CUBASE converges extraordinary sound quality, intuitive handling and a vast range of highly advanced audio and MIDI tools for composition, recording, editing and mixing.

- State-of-the-art Audio + MIDI Recording/Editing/Mixing
- Complete new set of VST3 virtual instruments and effects
- Real multi-channel 5.1 surround sound
- SoundFrame™ - Universal Sound Manager
- Control Room integration within your outboard studio environment
- Seamless integration of external audio and MIDI hardware
- Pristine 32-bit floating point audio engine
- Professional music notation and score printing
- Cross-Platform: Windows and Mac OS X Universal Binary

Surround Monitoring and Bass Management (n12)

The n12 features three pairs of speaker outputs that can be used for full 5.1 surround monitoring: front left and right, center and subwoofer, and rear left and right. If you don't need surround capability the outputs can simply be used to switch between different stereo pairs for comparison. When the 5.1 mode is selected all three output pairs are active, with the speaker selectors functioning as temporary mute switches. Bass management is also implemented for optimum matching between the full-range speakers and subwoofer. A down mix switch that lets you instantly collapse the 5.1 outputs to stereo.



* FireWire and the FireWire symbol are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. The FireWire logo is a trademark of Apple Computer, Inc.
* System requirements and specifications are subject to change without notice.

For details please contact:



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DIGITAL MIXING STUDIO

n12
n8



Main Features

Recording ▶▶▶▶▶

Play it Hot ... or Cool ... and Keep it That Way

The gear you use to record and produce your music must not only sound good, but it must keep your musical identity intact while allowing you to enhance and shape the sound without degrading the quality of the initial input in any way.

Musically Tuned Class-A Discrete Mic Preamp with Inverted Darlington Circuitry Design

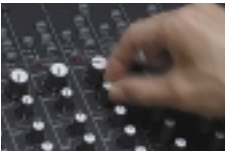
Yamaha has gone to extremes in the n-series mixer to create preamplifiers that will make the most of the music you feed them. In addition to a specially-tuned class-A discrete configuration that implements an inverted Darlington circuit design for exceptional musicality and low distortion, these outstanding preamplifiers employ custom-manufactured capacitors that contribute to sonic resolution you'll have to hear to believe. Bass comes through with the punch and authority it needs to support the music, smooth highs deliver a natural sense of openness and "air," and outstanding midrange resolution means extraordinary musical detail. These are not average production-line preamplifiers, and you will hear the difference.



Processing ▶▶▶▶▶

Enhance Your Art

Of course you can take the purist approach and simply record it like it is, but since an audio recording is a fundamentally different medium from a live performance, you'll most likely want to process and mix to bring the final sound into line with your musical intentions.



Sweet Spot Morphing Compressor

Yamaha's innovative Sweet Spot Morphing Compressor produced by K's LAB eliminates the tedious details with just two knobs that function in a totally new and ingenious way. The MORPH control has five "sweet spots" that offer compression crafted by some of the world's leading musicians, engineers and producers, and by simply rotating the control you can "morph" seamlessly from one sweet spot to the next for an extraordinary spectrum of expressive compression. The second DRIVE knob is used to adjust the amount of compression applied. No compressor has ever made it this easy to dial up the perfect compression for such a wide range of situations.

Effective Musical EQ

Like compression, artful EQ can dramatically enhance a mix in many ways. The n-series equalizers have been created through an extensive study of the most musical and desirable consoles used by leading artists and engineers throughout the world. They offer a finely-balanced and dynamic relationship between EQ curve, frequency ranges, and other factors that give you truly musical control. 3-band equalizers with sweepable midrange on each channel deliver totally satisfying, potent EQ control that can take your music to a higher level.

High-resolution Rev-X Reverb

Yamaha's Rev-X digital reverb algorithm is renowned for its high resolution and extraordinarily natural sound. The n-series consoles offer this leading technology built in. You have a choice of hall, room, and plate reverb simulations with reverb time and level control. This superlative reverb processor can be used for wet monitoring while recording as well as for adding ambience during final mixdown.

Monitoring ▶▶▶▶▶

What You Hear is What You Get

If you can't hear exactly what you're recording or mixing, it can be difficult if not impossible to achieve the intended results. The n-series consoles feature a remarkably well-equipped monitoring section that gives you broad, flexible monitor selection and control.



Pro-level Monitoring Suite with Surround Capability

The n8 has source selectors for DAW (the stereo output from the DAW running on your computer), ST (the console's stereo bus), AUX (the console's auxiliary bus), and 2TR (the console's 2-track inputs), while the n12 additionally features a "5.1" source selector for surround monitoring. The console's surround monitoring capabilities are impressive, with bass management, down-mixing, and other features you'd normally only find on high-end professional gear. You can even use the console for top-quality surround playback from pre-recorded sources such as DVDs and computer sources, giving you a chance to hear how top engineers approach surround production on your own monitor speakers. But although they provide professional capabilities, the n-series mixers make general monitoring hassle-free: simply select the signal you want to monitor and spin the big CONTROL ROOM LEVEL knob to set the ideal monitoring level. There's more. DIMMER and MUTE functions are normally only found on large studio consoles, but you'll be glad Yamaha has included them on the n8 and n12. As you'd expect, the mute switch mutes or un-mutes the console's output, while the dimmer switch reduces the



output to a level that is still audible but allows conversation or phone calls. The advantage of the dimmer switch is that you can simply tap it a second time and be precisely back at optimum monitoring level without having to reset faders or level controls.

Aux Sends for Artist Monitors or External Processing

All mono and stereo channels on the n-series consoles feature auxiliary sends that work with a master auxiliary send control to provide a stereo performer's monitor mix. The auxiliary sends could alternatively be used in conjunction with the console's 2-track inputs and 2TR TO ST (2-track to stereo) level control for external signal processing.

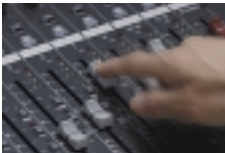
Talkback with Built-in Microphone (n12)

Another n12-specific feature is a built-in talkback microphone and talkback switch with level control for efficient engineer-artist communication. When talkback is engaged the dimmer is also engaged automatically.

Operation ▶▶▶▶▶

Analog Feel, Digital Power Under the Hood

There's no doubt that digital audio is here to stay. In fact, current digital audio technology is capable of delivering better sound with more control flexibility and convenience than analog ever could. The trick is to integrate the power and many advantages of digital into a working environment that's familiar and comfortable for the artist. And that, coincidentally, is a perfect description of the Yamaha n-series Digital Mixing Studios.



One Function per Control

Another reason the n8 and n12 are eminently predictable and easy to use is that nothing is hidden below the surface. There are no layers, no multi-functions controls ... there isn't even an LCD display. Each and every knob, switch, and fader does exactly what it says it does, and nothing else. Stated another way, that means you always know what you're doing, and there are no surprises to delay your progress.

24-bit, 96-kHz Digital Quality

What you won't see but will definitely hear is the superb audio quality delivered by the digital technology inside. 24-bit 96-kHz processing is the de-facto standard for professional audio, and that's what's happening inside the n8 and n12 chassis. The extraordinary Sweet Spot Morphing Compressors, channel equalizers, and Rev-X reverb processor are all made possible by state-of-the-art Yamaha digital technology too.

Software Integration

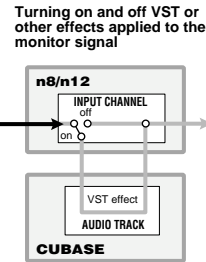
Hardware and Software in Total Harmony



Although they can be used as stand-alone mixing consoles, the n8 and n12 have been specifically designed to deliver maximum creative control and production power with the bundled CUBASE AI4 software. In addition to a powerful set of software tools that expand the mixer's recording and production capabilities, CUBASE AI4 features a range of MIDI sequencing capabilities, an entire suite of VST effect plug-ins, and a HALionOne sample player with a range of samples. The hardware and software components of this extraordinary production system work in seamless harmony to take you from concept to completion with intuitive ease.

Tight Integration Keeps You Focused and In Control

The n-series consoles and CUBASE software are so nicely integrated that most of the control you'll need while recording is available right from the console. You have track selection capability as well as full transport control including record arming, cycling and marker placement/location. A monitor remote switch lets you process the input channel and record bus signals with reverb and VST effects supplied by the software, and WET switches make it simple to set up wet monitoring while recording. There's even a remote on/off switch for the software's click (metronome) function. It's all right at your fingertips.



Dry or Wet Monitoring Control

It depends on the artist, but many would rather monitor themselves with effects such as the excellent VST distortion, phaser and other effects provided with the CUBASE software (otherwise known as "wet" monitoring). It's much easier to play with feeling if you can hear the sound of your voice or instrument pretty much as it will sound when recorded, and this is particularly important for instruments such as guitar or keyboards that are often recorded direct to the console. Setting up for wet monitoring can be tricky and tedious with standard consoles and software, but the n8 and n12 have dedicated switches that let you monitor dry or wet with the VST effects provided by the DAW software applied to any specified track. Where you'd normally have to interrupt the creative flow to make the required connections and settings, the n-series mixers let you keep the music happening. Just one more "n-factor" that can contribute to inspired performances.

Work Mode Select

The n8/n12 enables you to select the output destination of CUBASE audio tracks using just one switch. This destination setting is called "Work mode." The n8 provides two Work mode options (ST MIX and HARDWARE MIX), and the n12 provides three Work mode options (ST MIX, HARDWARE MIX, 5.1 MIX). You can change the Work mode setting at any time as appropriate for your situation. For example, you can select ST MIX for recording, then change to HARDWARE MIX for mixdown. All WORK MODE switches turn off immediately after the mixer is connected to CUBASE. When you press one of the switches to select a desired Work mode, the corresponding output destination is selected in CUBASE, and the switch LED lights up. The following paragraphs describe each Work mode.

Advanced Integration with CUBASE



The n8 and n12 link seamlessly to CUBASE DAW software, providing extensive mixer/software synchronization that offers unmatched power and efficiency for recording and mixdown.

Some of the synchronized control capabilities are:

- CUBASE® READY LED
- Transport Control / Track Selection / Click Remote
- Work Mode Selection
- Dry or Wet Monitoring
- Project Templates for the n8 and n12

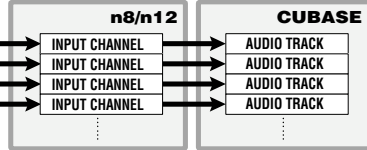
Project Template for n8/n12

Two templates are provided for the n8 and two for the n12, each including pre-programmed audio I/O and other settings. For production situations you can simply select a template and start recording. The Multi Channel Recording templates assign the console's channels to the CUBASE tracks on a one-to-one basis, while the Stereo Recording template assigns the console's REC bus signals to the appropriate CUBASE tracks.

Work Mode Select

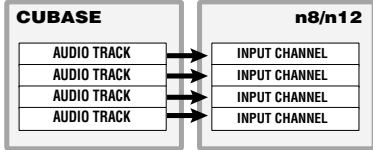
ST MIX

Direct recording of input channel signals



HARDWARE MIX

Mixing CUBASE tracks on the n8/n12



CUBASE® READY LED



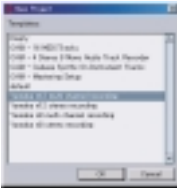
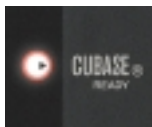
Set Up for Sensational Recordings in Minutes



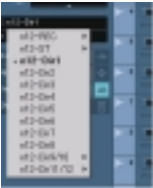
Connect



Start CUBASE



Select Template for n



Select input Channel



Ready to Go!

n12/n8 Specifications

Electrical Specifications

Sample Rate	Internal	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz	
	External	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz (±0.1 %)	
Total Harmonic Distortion	GAIN: Minimum	0.003 % or less (1 kHz @ +18 dB, into 600 Ω)	
Frequency Response (CH IN to STEREO OUT)	fs = 48 kHz	20 Hz–20 kHz, +1, –3 dB @ +4 dB, into 600 Ω	
	fs = 96 kHz	20 Hz–40 kHz, +1, –3 dB @ +4 dB, into 600 Ω	
Dynamic Range (SN ratio at the maximum level)		114 dB, DA converter (STEREO OUT)	
		106 dB, AD + DA (to STEREO OUT)	
Hum & Noise (20 Hz–20 kHz) Rs = 150 Ω		–128 dB, Equivalent input noise	
		–95 dB, Residual output noise, STEREO fader: Minimum	
		GAIN: Maximum PAD: OFF	–95 dB (99 dB SN), STEREO OUT STEREO fader: Nominal level, All channel faders: Minimum
		GAIN: –60 dB PAD: OFF	–60 dB (64 dB SN), STEREO OUT STEREO fader: Nominal level, One channel fader: Nominal level
Maximum Voltage Gain		n12	84 dB, CH1–8 to STEREO OUT/C-R OUT
			50 dB, CH9–12 to STEREO OUT/C-R OUT
			76 dB, CH1–8 to AUX OUT
			42 dB, CH9–12 to AUX OUT
		n8	76 dB, CH1–4 to STEREO OUT/C-R OUT
			42 dB, CH5–8 to STEREO OUT/C-R OUT
Crosstalk @ 1 kHz	GAIN: Minimum Adjacent Input	n12	–86 dB, CH1–8
			–80 dB, CH9–12
		n8	–86 dB, CH1–4
			–80 dB, CH5–8

Input and Output Specifications

Analog Input	Type	Input Level		
		Nominal Level	Maximum Level	Input Impedance
INPUT A (Mono) CH1–8 (n12) CH1–4 (n8)	XLR type balanced, +48 V Phantom powered	–60 dBu to +10 dBu	+24 dBu	3.5 kΩ
INPUT B (Mono) CH1–8 (n12) CH1–4 (n8)	TRS phone type, balanced	–60 dBu to +10 dBu	+24 dBu	3.5 kΩ (500 kΩ @ Hi-Z = ON)
INSERT IN	TRS phone type, unbalanced	0 dBu	+14 dBu	10 kΩ
INPUT (Stereo) CH9–12 (n12) CH5–8 (n8)	RCA pin type, unbalanced	–40 dBV to –10 dBV	+4 dBV	10 kΩ
	Phone type, unbalanced	–26 dBu to +4 dBu	+18 dBu	10 kΩ
2TR IN	RCA pin type, unbalanced	–10 dBV	+4 dBV	10 kΩ

Analog Output	Type	Output Level		
		Nominal Level	Maximum Level	Nominal Impedance
ST OUT	TRS phone type, balanced	+4 dBu	+18 dBu	600 Ω
	RCA pin type, unbalanced	–10 dBV	+4 dBV	10 kΩ
C-R OUT	TRS phone type, balanced	+4 dBu	+18 dBu	600 Ω
AUX OUT (Only n12)	TRS phone type, balanced	+4 dBu	+18 dBu	600 Ω
INSERT OUT	TRS phone type, unbalanced	+4 dBu	+18 dBu	10 kΩ
C-R PHONES, AUX PHONES	TRS phone type, unbalanced	4 mW + 4 mW	25 mW + 25 mW	8 Ω
		12 mW + 12 mW	75 mW + 75 mW	40 Ω

General Specifications

Faders	n12	100 mm × 11 (Non-motorized)
	n8	60 mm × 7 (Non-motorized)
Power Requirements	n12	51 W (PA-30)
	n8	33 W (PA-20)
Dimensions (H × D × W)	n12	146 × 561 × 515 mm
	n8	146 × 518 × 368 mm
Net Weight	n12	14 kg
	n8	11 kg
Operating Free-air Temperature Range		+5 to +35 °C
Included Accessories		AC power adaptor (n12: PA-30, n8: PA-20) DVD-ROM (CUBASE AI4) CD-ROM (TOOLS for n) Owner's Manual TOOLS for n/CUBASE AI4 Installation Guide IEEE1394 cable

n12/n8 Block Diagram

